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Contact tracing in the control of STD in Ibadan, Nigeria

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SUMMARY Contact tracing carried out at this clinic was analysed as part of measures for control of sexually transmitted disease (STD). Results showed that 50% of 156 contacts could not be traced at all for various reasons, and that 47% of the contacts were brought in through persuasion by index patients who had been counselled at the clinic. Only four contacts were traced, and two of these attended the clinic. Index patient cooperation is thus identified as the most important factor in the success of contact tracing, because of the high level of illiteracy and poor communications facilities in Nigeria, compared with industrialised countries.

Introduction

World wide experience with sexually transmitted disease (STD) indicated a general rise in incidence up to about 1972.[1] Some reports showed that where control measures were well applied this rise was less.[2] Other reports indicated that the general trend reported by Willcox continued unabated with added complexities, and that the various control measures had nowhere been effective.[3] Most of the factors which account for epidemics of STD such as rapid development, associated family disruptions, and changing cultures occur predominantly in developing countries. In these areas STD also presents formidable problems, especially arising from delayed or inadequate treatment.[4,5] The emergence of penicillinase producing *Neisseria gonorrhoeae* from developing countries and its rapid spread to more advanced countries has reinforced the need for greater effort in STD control than was hitherto practised in developing countries.

This clinic has run a model STD service for the past seven years, and the increasing awareness and utilisation of the facilities by health professionals and the general public may account for the rising annual statistics of STD in Nigeria. There is probably, however, an actual rise in incidence of these diseases in Ibadan, although accurate statistics on the incidence of STD in general are not available. The facilities offered by the clinic include prompt attention to patients, early diagnosis, free treatment, patient counselling, contact tracing, and standard follow up. Contact tracing when assertively and thoroughly pursued is generally agreed to be the most effective method of control of STD presently available.[6] As gonorrhoea constitutes one of the major causes of attendance at our clinic, the contact tracing undertaken during 1980 for cases of gonorrhoea was analysed to determine the usefulness of contact tracing in the control of STD in a developing country such as Nigeria.

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Methods

When they presented at the clinic patients were interviewed by the health visitor in a private room to establish a good rapport, to underline the importance of attendance at the clinic, and to reassure patients that all information was kept in strict confidence. Symptoms of STDs and the ways they may be spread were described with the help of pictorial illustrations. The possible source of infection and names of other sexual contacts were ascertained, and contact slips were sent through the patient to both primary and secondary contacts. The home and office addresses of contacts were also obtained. Churches, mosques, schools and other major street landmarks were used to describe the location of contacts, as many streets are unnamed and houses are not serially numbered in many sections of the city. If a contact failed to attend the clinic within two weeks an attempt was made to locate him or her. If found, the contact was persuaded to come to the clinic for investigation and treatment. Contacts living outside Ibadan whose addresses were known but could not be contacted by

the patient were sent contact slips by post, except for prostitutes whose attitude had previously been very hostile. From time to time, however, health education is carried out at brothels, the source of many contacts. The slips advised contacts to attend our clinic as soon as possible, as it was likely that they had contracted an infection.

The clinical notes for first visits had space for the doctor to note a history of sexual contacts, in addition to the health visitor's own records. Taking this epidemiological history also provided an occasion for patient counselling by the doctor, especially in relation to the need to treat contacts. These records were also assessed for their contribution to the overall success of contact tracing.

Results

During the period under review, a total of 254 bacteriologically confirmed cases of gonorrhoea were seen, of which 12 were reinfections from the same primary source. Table I shows the age and sex of the patients, of whom about half (50·4%) were within the 20-24 year age range. There were eight pre-pubertal girls (under 15 years), five of whom were under 5 years and were thought to have been infected by a parent or other adult.

TABLE I *Age and sex of patients with gonorrhoea*

Age (years)	*Male*	*Female*	*Total*
0-4	0	5	5
5-9	0	2	2
10-14	0	1	1
15-19	21	6	27
20-24	106	16	122
25-29	41	11	52
30-34	18	6	24
35-39	9	3	12
40-44	3	1	4
45-49	2	1	3
50 and over	2	0	2
Total	202	52	254

Table II shows that the largest source of infection was casual contacts, who accounted for 55·7% of all infections, with infection by regular sexual contacts in 24%, prostitutes in 11·7%, and spouses in 8·7%

TABLE II *Sources of infection with gonorrhoea*

Casual sexual contact	135*
Regular sexual contact	58
Prostitute	28
Spouse	21
Total	242

*Includes 5 girls who were probably infected by their parents or household contacts.

TABLE III *No of sexual contacts who responded to contact slips and visits*

No persuaded to attend by index patients	74
No traced by health visitor	4*
No not traced	78
No sent contact slips	156

*2 failed to attend.

of cases. Table III shows that index patients with gonorrhoea were given 156 contact slips during the study period, and 47% of the contacts who attended did so because of persuasion by index patients. Of the 82 (52·6%) non-responding contacts, 56 of whom lived in Ibadan, only four were traced at the address supplied by the index patient, and only two of these came for treatment. Table IV shows why the other contacts were not traced. Seven could not be found at the addresses given by the index patient, even though the houses were traced.

TABLE IV *Reasons that 78 sexual contacts were not traced*

Contact's address unknown to index patient	25
Contact lived outside Ibadan	26
Index patient unwilling or unable to give adequate information	20
House located but contact not found	7
Total	78

Discussion

Unlike many technologically advanced countries, developing countries generally have poor control programmes and facilities for the diagnosis and management of STD.[4] Most cities in Africa do not have a single STD clinic, and because of financial, personnel, and structural constraints this is likely to be the case for some time to come. For the same reasons, most of the control methods in use in the advanced countries cannot be applied here or in most developing countries. Many of the problems enumerated by Willcox[1] were encountered with STD patients seen here, the most prominent of which were the high number of casual untraceable contacts, contacts living outside Ibadan (where there are no facilities for adequate STD management), and the uncooperative attitude of some index patients and their contacts. Poor town planning made many houses untraceable. Other problems were encountered, such as polygamy which provides local pools of STD, multiple sexual contacts, and poverty leading to prostitution. Professional prostitutes were generally uncooperative over contact tracing since they rely on self medication with antibiotics, and

abuse drugs quite freely. Ignorance, coupled with some unfavourable cultural beliefs and attitudes, led to non-compliance of some contacts requested to present themselves for investigations and treatment.

This contact tracing survey shows that the best results can only be expected by ensuring the index patient's cooperation. Field contact tracing by the health worker met with very little success. In spite of professional time spent making 56 home visits, only 4 contacts were traced, and of these only two attended the clinic. On the other hand, 74 of the 156 known contacts came to the clinic as a result of persuasion by index patients, after their first clinic attendance. Lamb found that in the United Kingdom one in five cases (19·7%) with gonorrhoea were usually brought in by contact tracing,[8] while 56·7% of contacts receiving contact slips attended for examination.[9] In the United States 41·4% of patients with gonorrhoea treated in an STD clinic attended as a result of contact tracing.[10] Mills and Satin reported a similar experience with persuasion and home visits.[11] With the availability of the telephone and good postal facilities in such developed countries, home visiting is needed infrequently for achieving contact compliance In Nigeria, however, field contact tracing does not justify the investment of the available meagre resources on the employment of a contact tracer. With the inadequacy of telephone and postal services, little reliance can be placed on these means of communication to bring contacts for treatment.

We found the role of the doctor in reinforcing the health worker's counselling or even in initiating adequate epidemiological history and counselling, most helpful in ensuring the attendance of contacts at the clinic. This is probably of greater importance in developing countries where there is a high level of ignorance. In the eyes of a poorly educated patient, the contact tracer may be no more than an intruder into his privacy, seeking information which in many cases he wants to forget, and this may well militate against compliance. As pointed out by Van Parijs, control of STDs requires behavioural change.[3] Thus the reinforcement of counselling is particularly important in developing countries. Behavioural counselling should, however, always operate through a competent and compassionate clinical service by both the doctor and the contact tracer. As pointed out by Mills and Satin[10], unless and until contact tracing reaches all infected patients, its effect in the control of STD will be of limited value and difficult to measure and assess. The same epidemiological principle (namely health educational reinforcements) was observed concerning the counselling of all index patients, by involving them in the tracing of their contacts. From our experience, it appears that more effort should be directed to the index patient to achieve any worthwhile success with contact tracing.

The ultimate control of STD in developing countries will require community social action, which would be the only way to reach the many casual contacts and prostitutes. At the present time, the most important lines of effort should be the establishment of more STD centres especially in the big towns, increased epidemiological studies, the maximum use of the index patients for the purposes of contact tracing, greater input by doctors to obtain better epidemiological histories, and cautious patient counselling by STD health workers. The role of the doctor in ensuring patient compliance needs to be developed and further evaluated.

Community and group health education will augment other control measures, especially if directed at target groups like prostitutes and students. The clustering of patients in the 20-24 year age range indicates that sex education with some emphasis on STD will probably be most useful in the senior secondary school years just before reaching the age of maximum incidence of STD.

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